



STATUS REPORT NUMBER 10
February 15, 1965 to May 14, 1965

to

National Aeronautics and Space Administration
Washington, D. C.

FACILITY FORM 602

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on

TECHNOLOGY UTILIZATION PROGRAM
NASA Contract No. NASr-94 (00)
NASA Task Order No. NASr-94 (02)

June 21, 1965

SOUTHWEST RESEARCH INSTITUTE
SAN ANTONIO HOUSTON

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This document constitutes the Tenth Status Report (covering the period from February 15, 1965 to May 14, 1965) required to be issued quarterly under Article II (C) of the above referenced contract. The following studies were performed:

1. a) On February 26, two (2) interim evaluations were supplied the NASA Office of Technology Utilization. These were concerned with medical instrumentation and were reviewed by Dr. Ray Ware. Dr. Ware, a recent addition to the Institute staff, has both a medical degree and electronic engineering background.
- b) On March 2, three (3) interim evaluations were supplied.
- c) On March 18, five (5) interim evaluations were supplied.
- d) On March 20, three (3) interim evaluations were supplied.
- e) On March 22, three (3) interim evaluations were supplied.
- f) On March 25, five (5) interim evaluations were supplied.
- g) On March 29, three (3) interim evaluations were supplied.
- h) On April 14, ten (10) interim evaluations were supplied.

This is a total of 34 interim evaluations sent to the NASA Office of Technology Utilization during this period. Another 14 evaluations were completed during this period but not sent out until after May 14.

2. On February 24, a detailed evaluation report on NASA Innovation WOO-63, "Poppet Force Valve Balance Adjuster," was sent to NASA. It was concluded that the poppet valve is useful but several competitive valves exist. Therefore, it appears only a Tech Brief on this innovation should be prepared.

3. On March 10, a detailed evaluation report on NASA Innovation WS-2, "Suggested Method for Plating Copper on Aluminum," was sent to NASA.

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It appeared desirable to conduct certain additional laboratory work to properly present this innovation to industry. A proposal to do this work was supplied NASA; the work was authorized on March 15 and is in progress.

4. On March 12, a detailed evaluation report on NASA Innovation MSC-56, "Polyamide Adhesive for Space Systems Applications," was sent to the NASA Office of Technology Utilization. The review turned up several competitive materials, one known as Dow Corning "Sylgard" proved to have flow, cure, and adhesive properties which compare favorably with this polyamide adhesive. In addition to other beneficial characteristics, the "Sylgard" product does not require special handling and is less sensitive to thoroughness of mix than polyamide. An inquiry regarding this innovation was received from Midwest Research Institute on March 15; they were referred to the NASA Office of Technology Utilization.
5. Work on the preparation of specimens and their testing as construction materials of the "Low Temperature Curing Refractory Ceramic," NASA Innovation GSFC-162, continued during this period. The problems noted in the last report were resolved, specimens were being made and test results were being gathered. A progress report was sent NASA on March 15. It is estimated all test work on this project should be completed by June 10 and a final report sent NASA by July 1.
6. On March 16 and 17 the Semiannual Research Institute Conference on Technology Utilization was held at Southwest Research Institute. Representatives from Arthur D. Little, Battelle Memorial Institute, Illinois Institute of Technology Research Institute, Stanford Research Institute, Southwest Research Institute and the Office of Technology Utilization, NASA Headquarters, were present. Current activities of the Institutes were reviewed and future plans were discussed.
7. Based on one of the requests made at the Institute meeting, renewed efforts were made to generate topics for Tech Surveys from SwRI staff members. Several subjects were suggested and summary proposals forwarded NASA for consideration. They included the following:

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- a) Electron Beam Welding
- b) Batteries
- c) Design of High Pressure Systems

Other topics are still being suggested.

Approval was received on April 2 to conduct and prepare a Tech Survey on "NonGlassy Fibers." The work is under way.

8. On April 19, NASA requested SwRI to evaluate the merits of producing a Tech Brief and back-up package on NASA Innovation NASw-670, "Synthesis of Boron Carbide Fibers." The review showed this innovation to have merit; on May 11, NASA authorized preparation of this Tech Brief along with the development of the detailed information.

9. On April 19, after some preliminary reviews and discussion, NASA requested SwRI to prepare a Technology Utilization Report (TUR) on NASA Innovation ARC-10, "Ames Pressure Transducer." Certain required NASA contractor reports on this device were supplied on April 29 after which the work was started.

10. On April 29, a specific request to conduct an interim evaluation on NASA Innovation NU-0017, "Compensated Ionization Chamber" was received. This work is under way.

11. On May 10, NASA authorized SwRI to prepare a Technology Utilization Report (TUR) on NASA Innovation Lewis-74, "Regenerative Cooler or Heat Exchanger Construction."

12. During this period, approximately 150 flash sheets were received from the NASA Distribution Center at Bethesda. These had already been given an interim evaluation by another research institute. In line with instructions

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from NASA, these sheets were distributed to various SwRI staff members for brief review to determine if SwRI had a specific interest in conducting detailed evaluations on any of them.

Brief comments were sent NASA on 51 flash sheets on February 22, on 45 flash sheets on March 25, and on 40 flash sheets on April 27. Out of these 136 replies, SwRI expressed interest in doing more detailed reviews on 47 innovations.

13. Approximately 75 Tech Briefs, several Technology Utilization Reports and Surveys, the Cumulative Index of Flash Sheets and an overall List of Technology Utilization Publications were received during this period. These documents are distributed to the directors of our departments and our Houston office. The remaining copies supplied us are made available to Institute clients who, on visiting SwRI, are informed about the NASA Technology Utilization Program and find particular Briefs or other technical documents of interest.

